

City of BUNKER HILL VILLAGE

May 26, 2015 Flood

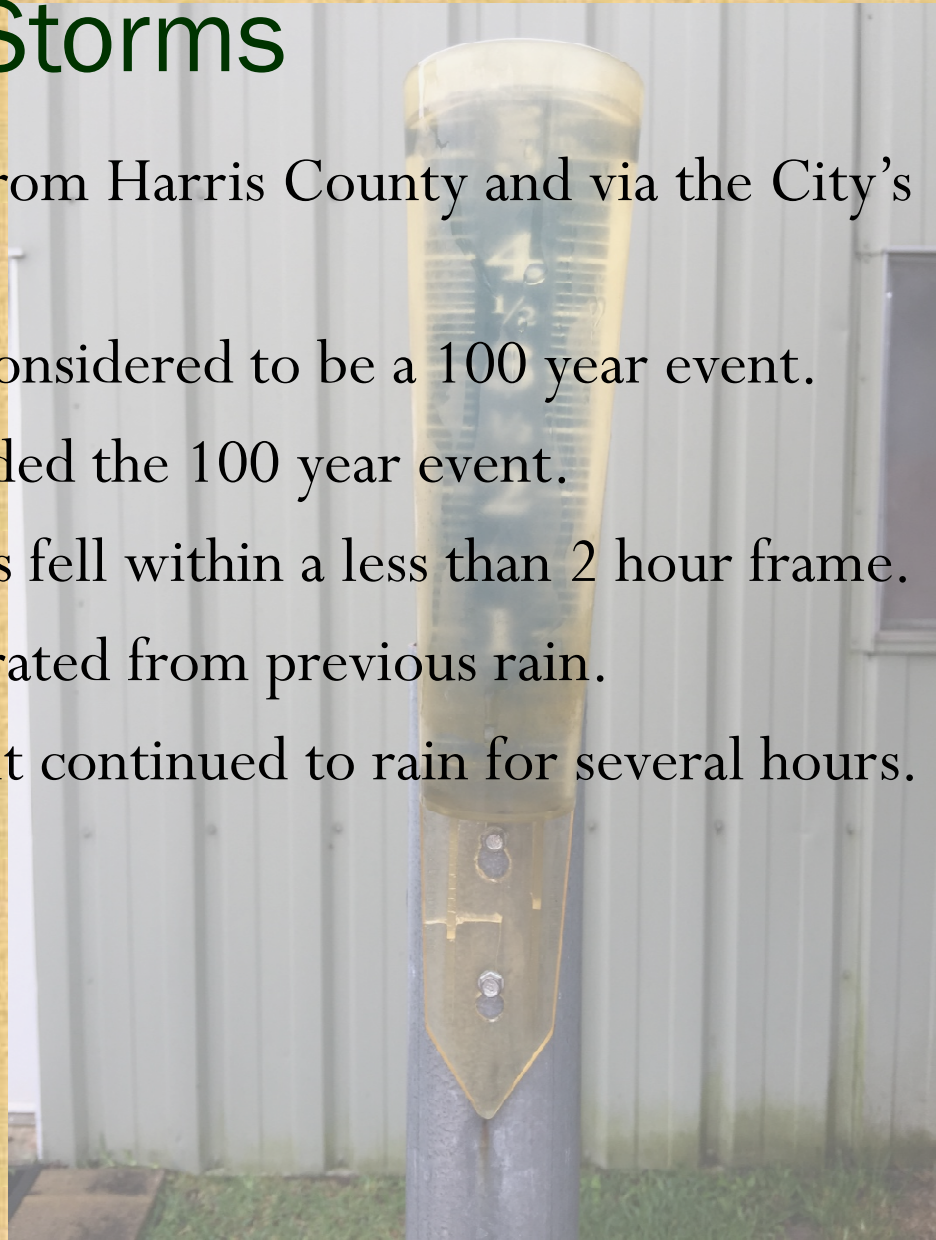
City Council Meeting

June 16, 2015

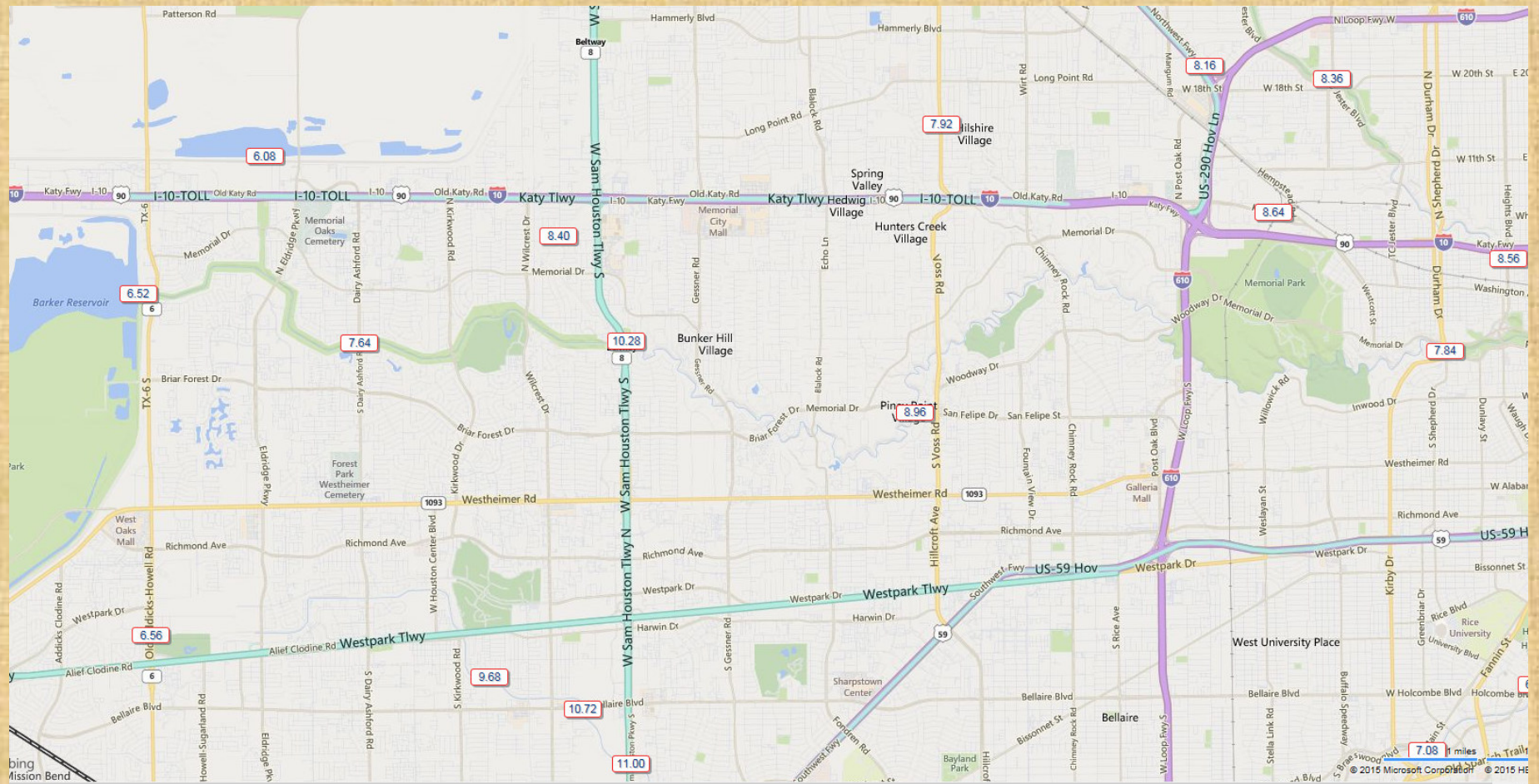


Magnitude of Storms

- Rainfall data was collected from Harris County and via the City's SCADA System.
- The April 2009 storm was considered to be a 100 year event.
- The May 2015 Storm exceeded the 100 year event.
 - Approximately 5-6 inches fell within a less than 2 hour frame.
 - The soil was already saturated from previous rain.
 - After the 2 hour period, it continued to rain for several hours.

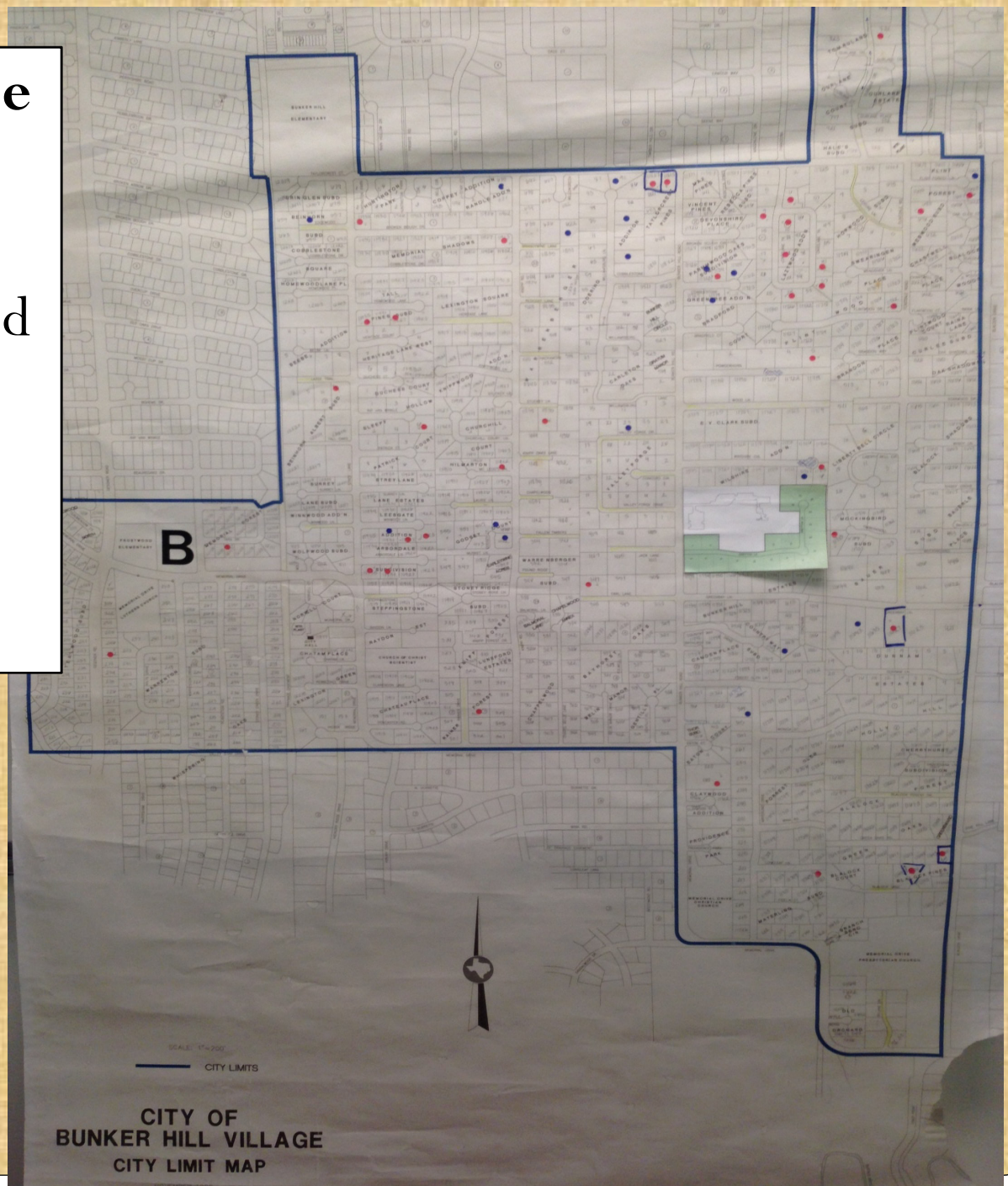


May 26, 2015 24Hour Rainfall Total Harris County Flood Control



Bunker Hill Village 2009 Flood Map

Rising Water breached
the individual slab
elevation for
~ 60 homes.

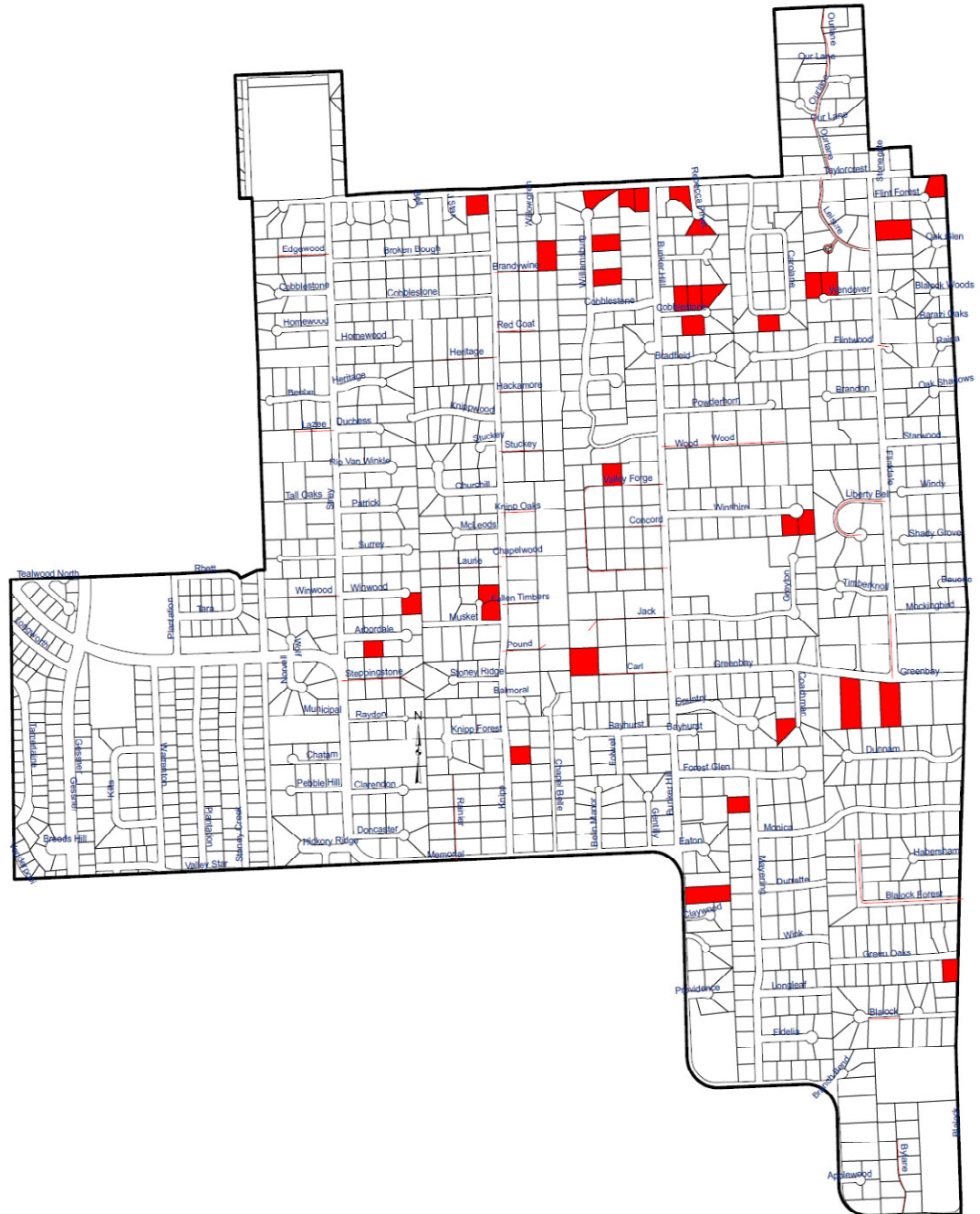


Map of Houses Flooded 2009 Storm

- Homes that reported flooding in the April 2009 storm are shown by **RED** dots.
- Following the 2015 flood, it was discovered that additional homes had also been impacted in 2009, these are shown on the map by **BLUE** dots.
- Projects were determined after the 2009 flood to best address the flooding problem:
 - Carolane Trail
 - Strey Lane Project,
 - Eastside Drainage Project – Blalock Ditch and POD Detention

Bunker Hill Village 2015 Flood Map

Rising Water breached the
individual slab elevation for
32 homes.



Map of Houses Flooded 2015 Storm

- Surveys were conducted to capture the impact of the storm.
- The data collected includes reporting by residents and field observations.
- The homes shown on this map had water in their homes in at least one or multi rooms, there are 32 homes on this map.
- Homes with lower impact such as some seepage, flooded garage or converted garage, flooding because of poor backyard drainage, and flooding because of roof damage are classified separately.



May 26, 2015 Analysis								
Address		Year Built	Year Moved In	2009 Flood?	Land Value	Improvements	Total Value	% Improvement
680	Flintdale	1950			\$1,587,040.00	\$33,216.00	\$1,626,041.00	2.04%
11710	Wendover Ln.	1966	1965	No	\$1,064,180.00	\$34,724.00	\$1,105,047.00	3.14%
11601	Green Oaks	1960			\$947,349.00	\$35,246.00	\$990,246.00	3.56%
402	Godsey Court	1971	1972	Yes	\$936,679.00	\$37,689.00	\$979,449.00	3.85%
11931	Arbordale	1966	1988	Yes	\$1,042,600.00	\$43,754.00	\$1,088,837.00	4.02%
90	Williamsburg	1960	2007	Yes	\$982,285.00	\$42,046.00	\$1,029,492.00	4.08%
403	Coachman	1962	1962	Yes	\$1,283,542.00	\$56,056.00	\$1,347,232.00	4.16%
635	Knipp Road	1965	1994	Yes	\$1,013,815.00	\$56,426.00	\$1,070,241.00	5.27%
11714	Wendover Ln.				\$1,118,026.00	\$70,329.00	\$1,200,805.00	5.86%
11803	Taylorcrest	1979	1983	Yes	\$884,818.00	\$69,984.00	\$961,522.00	7.28%
11643	Greenbay	1963		Yes	\$1,847,244.00	\$256,242.00	\$2,108,327.00	12.15%
347	Carl Lane	1953		Yes	\$1,610,684.00	\$247,883.00	\$1,871,602.00	13.24%
11627	Greenbay	1969	2014		\$952,778.00	\$646,480.00	\$1,613,197.00	14.25%
622	Knipp Road	1951	1951	Yes	\$1,455,155.00	\$250,180.00	\$1,711,776.00	14.62%
260	Bunker Hill Rd	1955	1980	Yes	\$1,290,328.00	\$243,355.00	\$1,538,844.00	15.81%
11703	Winshire	1966		Yes	\$1,133,470.00	\$243,031.00	\$1,386,886.00	17.52%
309	Mayerling Dr.	1955	2007	Yes	\$1,088,750.00	\$273,583.00	\$1,366,929.00	20.01%
23	Valley Forge	1954	1988	Yes	\$1,151,800.00	\$294,267.00	\$1,462,271.00	20.12%
78	Williamsburg	1956	2007	Yes	\$1,284,530.00	\$339,573.00	\$1,624,103.00	20.91%
66	Williamsburg	1962		Yes	\$1,292,252.00	\$403,301.00	\$1,695,553.00	23.79%
11714	Cobblestone	1974	2001	Yes	\$1,060,800.00	\$417,078.00	\$1,484,997.00	26.09%
11807	Taylorcrest	1980	2003	Yes	\$946,343.00	\$374,940.00	\$1,328,554.00	26.22%
11757	Taylorcrest	1980	2008	No	\$936,000.00	\$387,051.00	\$1,327,544.00	29.16%
11719	Cobblestone	1941	2012	Yes	\$1,149,590.00	\$557,424.00	\$1,713,734.00	32.53%
406	Godsey Court	1960		Yes	\$937,802.00	\$488,345.00	\$1,450,423.00	33.67%
29	Caroline Trail	1930	2012	Yes	\$1,056,250.00	\$548,561.00	\$1,604,811.00	34.18%
11707	Winshire	1963		Yes	\$1,030,224.00	\$549,330.00	\$1,586,654.00	34.62%
11708	Cobblestone	1974	1988	Yes	\$1,089,400.00	\$590,591.00	\$1,686,980.00	35.01%
11602	Flint Forest Lane	1970		Yes	\$1,051,573.00	\$635,250.00	\$1,749,909.00	36.30%
11720	Cobblestone	1974			\$1,074,840.00	\$637,691.00	\$1,726,477.00	36.94%
322	Knipp Road	1958	2011	No	\$948,168.00	\$571,702.00	\$1,519,870.00	37.62%
602	Rebecca Pines	1975	1992	No	\$1,040,260.00	\$882,733.00	\$1,941,193.00	45.47%

Analysis of Houses Flooded in the 2015 Storm

- Analysis indicates that all 32 houses were built between 1950-1980
- Through HCAD we calculated the house improvements as a percent of the total land value.

32 Homes

12	>21% Value
3	20 - 21% Value
6	10 - 20% Value
10	<10% Value
1	under redevelopment planning

Analysis of Houses Flooded in the 2015 Storm

- A concentrated area is visible in the Taylor crest, Cobblestone, Williamsburg areas.
 - This is the upper end of both the Bunker Hill Drainage System, and the Strey Lane Drainage System.
 - Because these systems reached capacity so quickly there was significant ponding for a longer time.
- A second area of concern is Winshire where we constructed the new PODs.

Factors for Prioritizing Capital Projects:

1. Public Safety - Street Flooding

- "Life over Property" -- *Drainage or lack of drainage creating impassible streets for emergency vehicles*

Discussions with the Police and Fire Departments found that Public Safety Responders were able to access all streets in Bunker Hill Village during the event.

2. Flooding Structures

- Breach to the minimum slab elevation criteria
- *Flooding could occur as a result of older homes not meeting the criteria*

3. Increased Drainage Capacity Benefiting the City as a Whole

- Capacity may include conveyance, detention, system improvements, etc.

4. Residential Impact by Street/Neighborhood/Area

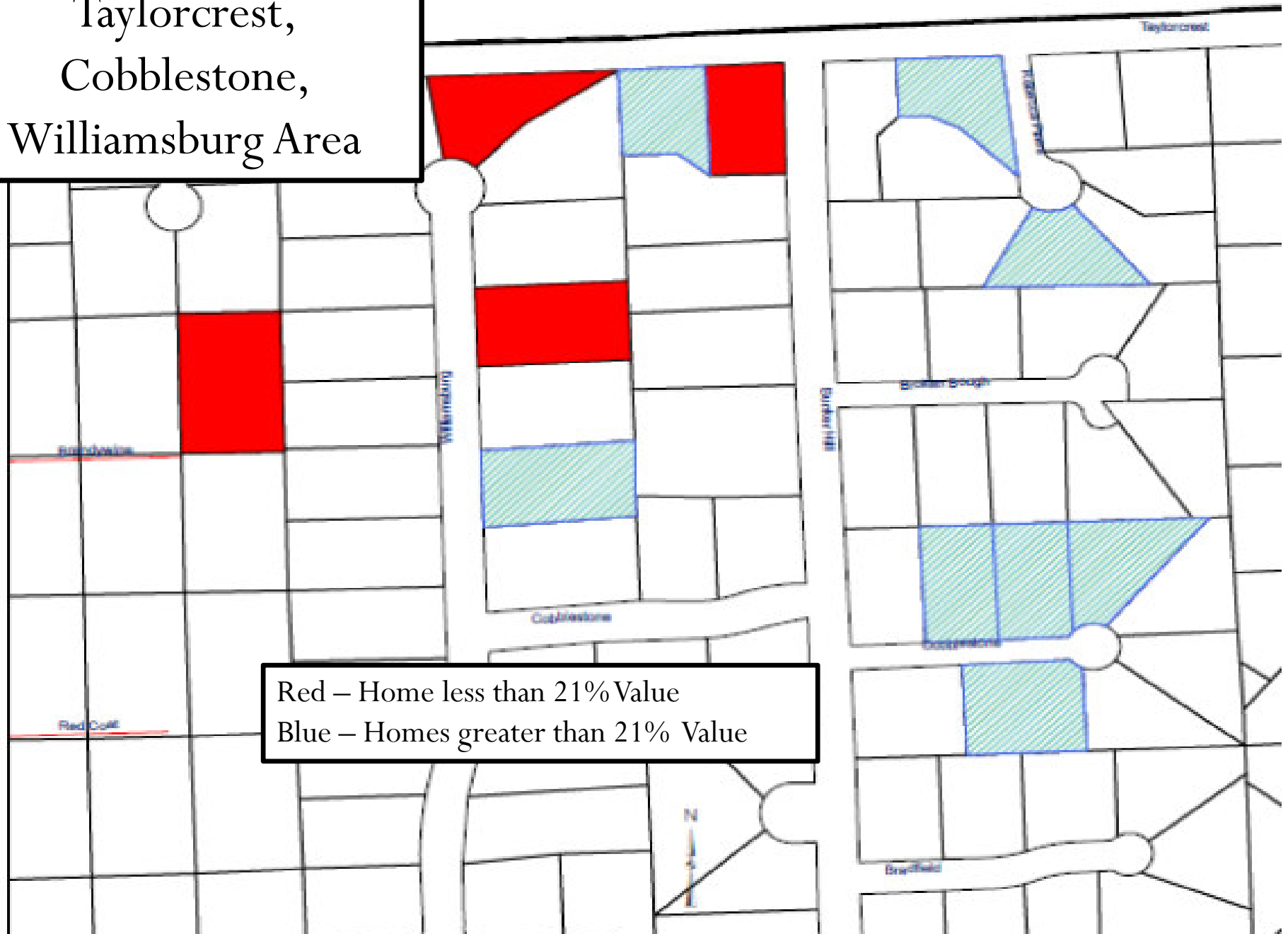
- Sheet Flow/Ponding on Private Property
- Street Ponding
- Stagnant Water/ Lack of Drainage
- Number of residents impacted

5. Maintenance of Improvements

- Impact to City/Impact to Homeowners

Recommended Factors
developed by the
Drainage Committee

Taylorcrest,
Cobblestone,
Williamsburg Area



Winshire Area

The map displays a road network with a central area highlighted in red and green. The red area is a small, irregularly shaped region, and the green area is a larger, more rectangular region adjacent to it. The surrounding road network is shown in grey, with various junctions and branches. A legend in the top left corner identifies the highlighted areas as 'Winshire Area'.

Recommendations

- Staff will be seeking direction on the city's capital projects and proposed studies, In summary this includes:
 - Delay of any work on Chapel Belle.
 - Consider approving Change Order No. 6 with AAA Asphalt Paving, Inc. to improve inlet capacity on Rhett and Tara.
 - Consider approving a contract with Klotz and Associates Inc. to conduct a drainage study for Taylorcrest, Cobblestone, and Williamsburg areas to identify potential drainage improvements.
 - Consider approving a contract with Klotz and Associates Inc. to review the Winshire area.

Recommended Changes for 2015 Projects

2015 Budgeted Projects	Budget	Reallocate to:	Funding
Public Safety Master Plan <i>General Fund</i>	\$ 25,000	Kilts, Warrenton, Valley Star - Preliminary Engineering Report	\$ 25,000
Tara & Rhett - <i>General Fund</i> <i>Utility Fund</i>	\$300,000 15,000	Tara, Rhett and Chapel Belle – Drainage Improvements with limited pavement; utility adjustments if needed	\$300,000 \$15,000
Bunker Hill Road Overlay <i>Metro Fund</i>	\$ 300,000	Bunker Hill - Point Repairs Bunker Hill & Memorial Safety Improvements/Design	\$150,000 \$150,000
Sub –TOTALS These 3 Projects	\$640,000		\$640,000